Chapter 2:

The Nutrient Standards

A nutrient standard is the required level of calories and certain nutrients for a specific grade or age group. The nutrient standards were established to serve as a measure of the nutritional quality of school meals.

Regulations require that planned and offered breakfast and/or lunch menus averaged over a week meet the nutrient standard for the age or grade group for which they are intended. Meeting these standards is the goal for *all* menu planning systems.

Calories and Nutrients in the Nutrient Standards:

Standards are set for:

- Calories
- ≤ 30% calories from total fat
- < 10% calories from saturated fat
- Protein
- Calcium
- Iron
- Vitamin A
- Vitamin C

It is important to point out that the nutrient standards for calories, protein, calcium, iron, vitamin A, and vitamin C are *minimums*, and the nutrient standards for the percentage of calories from total fat and saturated fat are *maximums*.

Maintenance of calories is probably the most important nutrient standard. Menu planners need to ensure adequate, consistent calorie levels to meet children's energy and growth needs by keeping daily calories close to the standard. Serving too much food and too many calories one day and too little food and too few calories on another day may average out, but a real disservice would be done to students whose energy and growth needs could not be met on days when too few calories are offered.

Meeting a Child's Overall Nutrient Needs:

USDA recognizes that the nutrient standards do not include all the nutrients for which Recommended Dietary Allowances (RDAs) have been established. Monitoring only the nutrients for which nutrient standards have been established should still ensure that a child's overall nutrient needs are met, because the foods which naturally contain those nutrients typically contain the other essential nutrients which are not specified in the nutrient standards.

However, USDA cautions that unrestricted use of a few highly fortified foods to meet the established target nutrients in the nutrient standards may result in shortages in some essential nutrients for which nutrient standards have not been established.

In addition, recent nutrition research indicates that, for optimum health, humans also need a variety of biologically-active compounds that occur in a variety of conventional foods, e.g., fruits, vegetables, and whole grains. This research is still in its early stages and there is much to be learned, but we do know that conventional foods are needed to meet these needs.

USDA is committed to the principle that meals be comprised of a variety of foods which provide naturally occurring nutrients, as recommended in the Dietary Guidelines, rather than formulated foods which have been artificially fortified.

Other Nutrients and Dietary Components Analyzed:

- Cholesterol
- Dietary fiber
- Sodium
- Carbohydrate (optional)

Other nutrients and dietary components that will be analyzed during the nutrient analysis are cholesterol, sodium, and dietary fiber. While there are no quantity standards set for cholesterol, sodium, and dietary fiber, they must be included in the analysis. Analyzing carbohydrate may be included, but is optional. Cholesterol, dietary fiber and sodium will be monitored over time to check on the implementation of the Dietary Guidelines:

1. Are cholesterol and sodium levels going down?
2. Is the dietary fiber level going up?

Nutrient Standards are Grade-Based or Age-Based:

Grade-based nutrient standards have been established for food-based menu planning and for nutrient-based menu planning. Optional age-based nutrient standards have also been established for nutrient-based menu planning. In addition, SFAs using nutrient-based menu planning may create customized age-based nutrient standards to correspond to the age groups in their schools.

Nutrient standards have not been established for infants and children ages 1-2 because the Dietary Guidelines do not apply to children under 2 years of age.

Nutrient Standards for Food-Based Menu Planning – Enhanced Meal Pattern and Traditional Meal Pattern:

Minimum Required Grade Groups for Enhanced Meal Pattern: Lunch

- Preschool
- Grades K-6
- Grades 7-12
- Optional group for grades K-3

Nutrient Standards for Minimum Required Grade Groups for Enhanced Meal Pattern: Lunch

Calorie and Nutrient Levels for School Lunch (school week averages)				
	Pre-School	Grades K-6	Grades 7-12	Option Grades K-3
Energy Allowances (calories)	517	664	825	633
Total fat	[1]	[1]	[1]	[1]
Total saturated fat	[2]	[2]	[2]	[2]
Protein (g)	7	10	16	9
Calcium (mg)	267	286	400	267
Iron (mg)	3.3	3.5	4.5	3.3
Vitamin A (RE)	150	224	300	200
Vitamin C (mg)	14	15	18	15

[1] Total fat not to exceed 30 percent of calories over a school week
[2] Saturated fat to be less than 10 percent of calories over a school week

Minimum Required Grade Groups for Traditional Meal Pattern: Lunch

- Preschool
- Grades K-3
- Grades 4-12
- Optional group for grades 7-12

Nutrient Standards for Minimum Required Grade Groups for Traditional Meal Pattern: Lunch

Calorie and Nutrient Levels for School Lunch (school week averages)				
	Pre-School	Grades K-3	Grades 4-12	Option Grades 7-12
Energy Allowances (calories)	517	633	785	825
Total fat	[1]	[1]	[1]	[1]
Total saturated fat	[2]	[2]	[2]	[2]
Protein (g)	7	9	15	16
Calcium (mg)	267	267	370	400
Iron (mg)	3.3	3.3	4.2	4.5
Vitamin A (RE)	150	200	285	300
Vitamin C (mg)	14	15	17	18

[1] Total fat not to exceed 30 percent of calories over a school week
[2] Saturated fat to be less than 10 percent of calories over a school week

Minimum Required Grade Groups for Enhanced and Traditional Meal Patterns: Breakfast

- Preschool
- Grades K-12
- Optional group for grades 7-12 for Enhanced Meal Pattern

Nutrient Standards for Minimum Required Grade Groups for Enhanced and Traditional Meal Patterns: Breakfast

Calories and Nutrient Levels for School Breakfast (school week averages)			
	Pre-school	Grades K-12	Optional Grades 7-12 for Enhanced Meal Pattern
Energy Allowances (calories)	388	554	618
Total fat	[1]	[1]	[1]
Total saturated fat	[2]	[2]	[2]
Protein (g)	5	10	12
Calcium (mg)	200	257	300
Iron (mg)	2.5	3.0	3.4
Vitamin A (RE)	113	197	225
Vitamin C (mg)	11	13	14

[1] Total fat not to exceed 30 percent of calories over a school week
[2] Saturated fat to be less than 10 percent of calories over a school week

The food-based menu planning groups are designed to reflect the differing nutrient and calorie needs of younger and older children while also accommodating the grade structure of the majority of schools.

Food-Based Menu Planning: Pattern = Standard

Provided that an appropriate pattern is used for menu planning, meals served using a specific meal pattern will be reviewed against the nutrient standard for that meal pattern, regardless of the grade levels in the school. This means that a junior high school (Grades 7-9) implementing the Traditional

Meal Pattern for Group IV (Grades 4-12) would be reviewed against the nutrient standard for Grades 4-12.

Nutrient Standards for Nutrient-Based Menu Planning – NSMP (NuMenus) and ANSMP (Assisted NuMenus):

Minimum Required Grade Groups for NSMP and ASNMP: Lunch

- Preschool
- Grades K-6
- Grades 7-12
- Optional group for grades K-3

Nutrient Standards for Minimum Required Grade Groups for NSMP and ANSMP: Lunch

Calorie and Nutrient Levels for School Lunch (school week averages)				
	Pre-School	Grades K-6	Grades 7-12	Option Grades K-3
Energy Allowances (calories)	517	664	825	633
Total fat	[1]	[1]	[1]	[1]
Total saturated fat	[2]	[2]	[2]	[2]
Protein (g)	7	10	16	9
Calcium (mg)	267	286	400	267
Iron (mg)	3.3	3.5	4.5	3.3
Vitamin A (RE)	150	224	300	200
Vitamin C (mg)	14	15	18	15

[1] Total fat not to exceed 30 percent of calories over a school week
[2] Saturated fat to be less than 10 percent of calories over a school week

Minimum Required Grade Groups for NSMP and ANSMP: Breakfast

- Preschool
- Grades K-12
- Optional group for grades 7-12

Nutrient Standards for Minimum Required Grade Groups for NSMP and ANSMP: Breakfast

Calories and Nutrient Levels for School Breakfast (school week averages)			
	Pre-school	Grades K-12	Option Grades 7-12
Energy Allowances (calories)	388	554	618
Total fat	[1]	[1]	[1]
Total saturated fat	[2]	[2]	[2]
Protein (g)	5	10	12
Calcium (mg)	200	257	300
Iron (mg)	2.5	3.0	3.4
Vitamin A (RE)	113	197	225
Vitamin C (mg)	11	13	14

[1] Total fat not to exceed 30 percent of calories over a school week
[2] Saturated fat to be less than 10 percent of calories over a school week

Optional Age Groups for NSMP and ANSMP: Lunch and Breakfast

For NSMP and ANSMP, schools have the option to provide the calorie and nutrient levels for school lunches and breakfasts for the age groups below:

- Ages 3-6
- Ages 7-10
- Ages 11-13
- Ages 14-17

These age groups allow the menu planner to develop menus that are more accurately targeted to the nutritional needs of children.

Nutrient Standards for Optional Age Groups for NSMP and ANSMP: Lunch

Minimum Calorie and Nutrient Levels for School Lunch
(school week averages for age groups)

Nutrients and energy allowances	**Ages 3-6**	**Ages 7-10**	**Ages 11-13**	**Ages 14 and older**
Energy Allowances/Calories	558	667	783	846
Total Fat	[1]	[1]	[1]	[1]
Saturated Fat	[2]	[2]	[2]	[2]
RDA for Protein (g)	7.3	9.3	15.0	16.7
RDA for calcium (mg)	267	267	400	400
RDA for Iron (mg)	3.3	3.3	4.5	4.5
RDA for Vitamin A (RE)	158	233	300	300
RDA for Vitamin C (mg)	14.6	15.0	16.7	19.2

[1] Total fat not to exceed 30 percent of calories over a school week.
[2] Saturated fat to be less than 10 percent of calories over a school week.

Nutrient Standards for Optional Age Groups for NSMP and ANSMP: Breakfast

Minimum Calorie and Nutrient Levels for School Breakfast (school week averages for age groups)				
Nutrients and energy allowances	**Ages 3-6**	**Ages 7-10**	**Ages 11-13**	**Ages 14 and older**
Energy Allowances/Calories	419	500	588	625
Total Fat	[1]	[1]	[1]	[1]
Saturated Fat	[2]	[2]	[2]	[2]
RDA for protein (g)	5.50	7.00	11.25	12.50
RDA for calcium (mg)	200	200	300	300
RDA for Iron (mg)	2.5	2.5	3.4	3.4
RDA for Vitamin A (RE)	119	175	225	225
RDA for Vitamin C (mg)	11.00	11.25	12.50	14.40

[1] Total fat not to exceed 30 percent of calories over a school week.
[2] Saturated fat to be less than 10 percent of calories over a school week.

Optional Customized Age Groups for NSMP and ANSMP

Schools planning menus using NSMP or ANSMP have the option of creating their own customized age groupings and nutrient standards for menu planning to match the grade structures in their schools. For example, a school district divides its schools as follows:

- preschool and kindergarten (Pre-K to K),
- elementary (Grades 1-6),
- junior high school (Grades 7-9), and
- high school (Grades 10-12).

This school district may wish to create age-based nutrient standards which reflect those grades. The nutrient standards they would create would be as follows:

- Ages 3-5 for Pre-K to K,
- Ages 6-11 for Grades 1-6,
- Ages 12-14 for Grades 7-9, and
- Ages 15-17 for Grades 10-12.

By creating their own nutrient standards, the school district could better plan meals to meet the nutrient needs of the students attending their schools.

The menu planner will use the USDA-approved software to establish the nutrient standards for breakfast and for lunch for the customized age groups and will plan menus to meet the new nutrient standards.

For lunch, at least two nutrient standards should be used with any school that has grades K-12. Where such a broad spectrum of ages and grades are present, the standard should be changed at or right above the sixth grade level because of the concern discussed below:

Special consideration at age 11

Menu planners should always be aware that the greatest differential in caloric needs occurs between ages 10-11 or between grades 5-6. A one-year age difference does not make a great difference in the RDA requirements for each nutrient when weighted for the predominant group. However, when several ages are added in on either side of the 10-11 age break, either too few nutrients and calories will be provided for those 11+ years or too many calories and nutrients will be provided for 10 years and under.

Special Rules for Menu Planning for NSMP and ANSMP

Not all schools' grade structures will match the nutrient standard grade or age groups. If only one age or grade is outside the established levels, a school or group of schools may use the nutrient standard levels for the majority of children regardless of the nutrient standard option selected. However, when more than one grade or age is outside of the established levels, the menu planner must use two of the required groups or develop a customized age group.

NSMP or ANSMP

If Age or Grade Groupings Differ:

- Use two standards or
- Create a customized age standard or
- If only one age or grade is outside, use majority standard

Required grade groups

For example, when using the required grade groups chart, if there is more than one grade beyond grade 6 or below grade 7 in the school, two grade groups for lunch should be used. Grade K-8 or grade 5-8 schools should have at least two grade groups for menu planning. Grade K-7 or grade 6-9 schools, however, could include the one grade outside the group in the predominant grades K-6 and grades 7-12 groups, respectively.

If the menu planner is planning centralized menus for several schools with grades within the K-6 range, even though the schools have varying age or grade groups, all of the menus may be planned to meet the nutrient standard for grades K-6 rather than customizing a standard for each school.